GP 1648

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I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO: ASSISTANT COMMISSIONER FOR PATENTS, WASHINGTON, D.C. 20231, ON THE DATE INDICATED BELOW.

By: Martha O. Hulett Date: April 2, 1998

PATENT
BOX NON-FEE AMENDMENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re:	Patent Application of James A. Hoxie	:	Group Art Unit: 1648
Appln. No.:	08/882,435	:	Examiner: B. Nelson
Filed:	June 25, 1997	:	
For:	ANTIBODIES DIRECTED AGAINST CELLULAR CORECEPTORS FOR HUMAN IMMUNODEFICIENCY VIRUS AND METHODS OF USING THE SAME	:	Attorney Docket No. **9596-11U1** (I-1470)

RESPONSE TO RESTRICTION REQUIREMENT

Responsive to the Restriction Requirement dated March 23, 1998 (Paper No. 7), Applicant hereby elects to prosecute the claims of Group I, claims 1-10, without traverse.

The Examiner has requested that if election is made to the claims of Group I, then a species election must be made to either HIV-1, HIV-2 or SIV. Applicant hereby elects the species HIV-1, claim 2, with traverse. Applicant's traversal is based on the fact that a significant amount of homology exists between the nucleic acids and proteins of HIV-1, HIV-2 and SIV. These three viruses are lentiviruses which are the causative agents of very similar immunodeficiency diseases in their respective hosts. In fact, infection of monkeys with SIV is an acceptable animal model for infection of humans with HIV-1 or HIV-2. These viruses are frequently used side by side in experiments designed to examine lentivirus-induced immunodeficiency disease. Thus, in performing a patentability search for HIV-1 in the context of the present claims, the Examiner will necessarily uncover art pertaining to both HIV-2 and SIV. Similarly, a search of the literature on either of HIV-2 or SIV will uncover art pertaining to HIV-2. Since a single search will necessarily result in literature on all three viruses, no undue

burden is placed on the Examiner to search all three viruses at one time. For this reason, Applicant respectfully requests withdrawal of the election of species requirement with respect to HIV-1, HIV-2 and SIV.

The Examiner has also requested that in the event that election is made to either HIV-1 or HIV-2, then a subspecies election must be made to one of an HIV receptor protein or a cellular cofactor for a cellular HIV receptor protein. Applicant hereby elects a cellular cofactor for a cellular HIV receptor protein, claims 3 and 5, with traverse. Applicant's traversal is based on the fact that the process of viral entry into cells is one which necessarily requires binding of the virus to a cellular protein, whether or not the protein is a cellular viral receptor protein or a cellular cofactor for a cellular viral receptor protein. Both proteins are cellular proteins. Both proteins are required for virus entry into cells. A search of one type of protein in the context of the present claims would necessarily reveal the other protein. Thus, no undue burden is placed upon the Examiner to search for both types of proteins at one time. For this, reason, Applicant respectfully requests withdrawal of the election of species with respect to an HIV receptor protein and a cellular cofactor for a cellular HIV receptor protein.

The Examiner has further requested that in the event a cellular cofactor for a cellular HIV receptor protein is elected, an additional subspecies election must be made to one of either CXCR4 or CCR5. Applicant hereby elects CXCR4, claims 6-10, with traverse. Applicant's traversal is based upon the fact that CXCR4 and CCR5 are similar cellular cofactors which may be interchangeable with respect to infection of cells by HIV. That is, a single type of cell which expresses either of these receptor proteins, may be infected with HIV-1. See for example, the specification on page 30, lines 12-16, wherein it is stated that "Furthermore, it has recently been shown that several primary dual-tropic HIV-1 isolates (as well as GUN-1wt) infected cat CCC cells expressing human CD4 as long as either CXCR4 or CCR5 was present, while a subset of the primary strains could use CCR3, CCR5, or CXCR4 (Simmons et al., 1996, *supra*)." Under the circumstances, it would not be an undue burden to search for both receptor proteins at one time in the context of the present claims. Thus, Applicant respectfully requests withdrawal of the subspecies requirement.

Early consideration and allowance of the claims in the present application is earnestly requested.

Respectfully submitted,

JAMES A. HOXIE

April 2, 1998
(Date)

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